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ABSTRACT

Comparative motivational studies of middle class and lower class children show that different economic and ethnic groups vary in their reward-punishment systems. Teachers should have a systematic theory of the working of reward and punishment in learning. Their theory should include the concept of a hierarchy of reward levels, and they should understand what levels of reward are working in their class. Teachers should help a student develop his ego, or internal control, as a controller and rewarder of his behavior. Order and consistency in the class room situation and individualized instruction help strengthen ego control. Students need to learn to predict their own learning in relation to their effort to learn. A successful program should let students know what their responsibilities are, participate in making decisions about their work and give them accurate information on their progress. This theory as applicable to disadvantaged students is discussed in the report. [Not available in hard copy due to marginal legibility of original document.] (KG)

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August, 1969

MINORITY SUB-CULTURES AND THE LAWS OF LEARNING*

Since the 1950s we in the United States have become more and more acutely aware of and concerned about the socially disadvantaged segment of our society. We have joined a War on Poverty. We have declared racial segregation in the public schools to be illegal. We have passed a Civil Rights Act. These things we have done out of our conviction that democracy is morally right and can be made to work better in our society than it has in the past.

We have also defined rather accurately the "socially disadvantaged" group as consisting roughly of the bottom 15 percent of our population in terms of income and educational achievement. Some people would argue that this is too small a proportion. They would add another 10 percent, to make it a quarter of the population. Others would go so far as to define all manual workers and their families (about 60 percent of the population) as socially disadvantaged, but this kind of proposition could not be supported with data on inadequacy of income, educational achievement, stability of family, law-observance, or any other major index of standard of living. While the stable working class (or upper working class), consisting of 40 percent of the population, is slightly below the white-collar group in average income, educational level, and other socioeconomic indices, this group is not disadvantaged in an

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absolute sense, does not feel disadvantaged, and has an active interchange of membership with the white-collar group between successive generations.

As for the truly disadvantaged group of 15 to 20 percent of the population, there is disturbing evidence that this group is in danger of becoming a permanent "underclass" characterized by absence of steady employment, low level of education and of work skills, living on welfare payments, and social isolation from the remainder of the society.

The presence of this social and human problem cannot be passed off in any of the ways that might have been possible a century ago; or might be possible today in the poor countries. It cannot be ascribed to inherited inferiority of the disadvantaged. It cannot be blamed on the country's poverty, since we are an affluent society. It cannot be passed off with the optimistic prediction that the current group of disadvantaged will soon become assimilated into the general society as most ethnic groups have done in the past--the Irish, Germans, Swedes, Poles, Italians, etc.

The problem is brought to a head by the clearly-established fact that the children of this group are <u>not</u> doing as well in school or in the world of juvenile work as did the children of poor people 50 and 100 years ago.

Furthermore, most Americans believe that true democracy means equality of economic and educational opportunity. And there is a growing conviction that the proof of the existence of equality of economic and educational <u>opportunity</u> is the achievement of economic and educational <u>equality</u> by the previously disadvantaged groups within a reasonable period of time, measured by decades and not by centuries or even by generations.

The War on Poverty?

For the past ten years our principal attack on the problem of social disadvantage has been through the War on Poverty. We have spent much talent and energy and a good deal of money, without raising the educational or occupational achievement level of this group appreciably, except in a few unusual situations. These unusual situations, in which disadvantaged children and youth have made normal or even superior progress, do not provide us with any broad program ideas that can be applied widely. They seem to tell us that:

a. No mere quantitative changes in the school program are likely to work. It does not bring a widespread improvement to extend the school day an hour, or the school year by a month, or to reduce class size, or to revise school attendance boundaries;

b. Close and minute attention to the process of teaching a particular subject at a particular age may be useful;

c. We should look closely at children and their particular learning behavior for clues to action.

A Look At What We Know

- Examination of known facts about school achievement of definable social groups in the United States shows that poor school achievement is not primarily a problem of ethnic sub-cultures, but rather is primarily a problem of the lowest socioeconomic group interacting to a limited degree with minority sub-cultures.

There are certain ethnic minorities which do very well--as well or better than the national average, in school achievement. Outstanding among these are Japanese, Chinese, and Jews. The adults of these groups have an average occupational status above the national average, and the children of these groups do better than the national average on tests of

school achievement.

Other ethnic groups do poorly in these respects, but these groups also have substantial numbers who equal or exceed the national average. There is no single ethnic group of any size that can be said to be disadvantaged educationally and economically as a group. The Negroes might be thought of as a disadvantaged group, and this would be true, historically. But at present there is a large and growing Negro middle class and a large and growing Negro upper-working-class, whose occupational status is average or above, and whose children do average or better work in school.

The same statement applies to Puerto Ricans, Mexican Americans, and American Indians. It is the least educated and the least work-trained members of these groups who do least well in American society. These groups all have substantial and growing numbers of people who perform at average or higher levels of occupational status, and whose children do well in school.

Thus, when we speak of the group of socially disadvantaged people in America, we are speaking of some 15 to 20 percent of the population who are like each other in their poverty, their lack of education and work skills, but unlike each other in ethnic sub-culture. Crude estimates indicate this group contains about 20 million English-Speaking Caucasians, 8 million Negroes, 2 million Spanish-Americans, 700,000 Puerto Ricans, and 500,000 American Indians.

These people have poverty in common. Insofar as there is a definable "culture of poverty," tney share that culture. Still, a small fraction of them, though poor, do not have the characteristics of the "culture of poverty."

It may be that their various ethnic sub-cultures have something to do with success or failure in school and in the labor market. If so, then it must be the combination of poverty with the ethnic sub-culture that produces these effects. It may also be true that other ethnic sub-cultures, such as the Japanese and Chinese, serve to prevent poverty.

The Implicit Contract

It may be useful to examine the educational problem of the socially disadvantaged in terms of the implicit contract that a family and a school accept when a child is entrusted by his family to a school. The parents contract to prepare their child for school entrance, both cognitively and affectively. They further contract to keep him in school, and to make home conditions appropriate for his success in school. The school contracts to receive the child, teach him as well as it can, taking account of his strengths and weaknesses, and the ways in which he can learn most effectively.

Very little of this contract is put into legal codes, but the education of the child is only successful when both parties carry out their obligations fully. Sometimes one or both parties fail to understand the nature of these obligations.

In the case of the socially disadvantaged parents of this country, nearly all of them fail to meet the terms of the contract. But the schools generally fail also, by failing to understand how the children of these families can learn most successfully.

The Human Reward-Punishment System

The principal proposition of this paper is that the job of educating socially disadvantaged children would be done much better if educators understood the nature of rewards and how they function in human

learning, and applied this knowledge to their work with children and with parents of socially disadvantaged children.

Leads to this proposition exist in the literature of research on education, but do not force themselves on the educator. For example, Allison Davis offered one of these clues in a paper he published in 1965, on "Cultural Factors in Remediation." He noted that his wife, then working as a substitute teacher in the Chicago public schools, made a discovery about the way disadvantaged children may learn arithmetic. In a second grade in a ghetto school she found several children, including one nine-year-old boy, who could not count beyond two or three. The following day was Valentine's Day, and she brought some candy hearts to school. She told the children they could have as many candy hearts as they could count. The nine-year-old boy thereupon counted fourteen candy hearts. Davis goes on to say that teachers of "culturally low-status children" should learn how their children live, and then work out new materials and ways of teaching so as to encourage and approve those students who have experienced little except disapproval, stigma, and failure in the conventional school program.

In the years since 1960 a number of psychologists have studied the nature of rewards in human learning. Among others, the work of Zigler, Rotter, Katz, and Crandall have widened the field of research and have stimulated others to work in this field.

What these people have in common is the following proposition:

Human learning is influenced by a variety of rewards, which are themselves arranged in a culturally-based reward-punishment system which is learned.

This requires us to examine the nature of rewards. We cannot simply assume that "a reward is a reward and that is it," as we might be

tempted to do if we were studying the learning behavior of cats, or pigeons, or rats. It was more or less obvious to researchers that reward systems might vary with social class, or with ethnic sub-culture. It seemed likely that a child learns his reward system mainly in the family, but also in the school and the peer group and the wider community.

Analysis of the Reward-Punishment Concept

The reward-punishment concept, and its related reinforcement theory, has been developed rather differently by each of three groups of psychologists.

Learning theorists, starting with E. L. Thorndike, have tended to use the concept to refer to something done to the learner by an experimenter or observer, which influences the behavior of the learner. On the other hand, social psychologists and personality theorists have included the subjective experience of the learner as a source of reward-punishment. Thus a person may be rewarded or punished by his own feelings or by the attitudes of other people toward him.

Thorndike stated the"law of effect" as follows: "Any act which in a given situation produces satisfaction becomes associated with that situation, so that when the situation recurs the act is more likely to recur also."*

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* Thorndike, E. L. The Elements of Psychology. p. 203. New York: A.G. Seiler, 1905.

Skinner, B.F. Science and Human Behavior. p.84. New York: Macmillan, 1953.

Skinner's definition is, "We first define a positive reinforcer as any stimulus the presentation of which strengthens the behavior upon which it is made contingent."*

These are broad enough to cover the other usages, though the social psychologists and personality theorists have stated them more fully. Thus, Hartley and Hartley say,* "Reward. . . must be very broadly defined when we consider human learning. Because human beings are capable of retaining the effects of their experiences for long periods of time and because they are capable of generalization and transfer, functional rewards . . . may be far removed from physical rewards. When we speak of rewards we mean anything that operates as a source of satisfaction for the individual . . . the attitudes other people display and the individual's own feelings may come to serve as rewards."

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* Hartley E. L. and R. E. Hartley. p.275. Fundamentals of Social Psychology. New York: Knopf, 1952.

Personality theorists make much of the distinction between external and internal sources of reward-punishment. Otto Fenichel writes,*

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* Fenichel, Otto. The Psychoanalytic Theory of Neurosis. p.105. New York: Norton, 1945.

"The superego is the heir of the parents not only as a source of threats and punishments but also as a source of protection and a provider of reassuring love. . . Complying with the superego's demands brings not only relief but also definite feelings of pleasure and security of the same type that children experience from external supplies of love."

Theory of the Evolution of Reward-Punishment

It appears, then, that we can distinguish four major types of reward-punishments. The earliest, in terms of operation in human learning, is satisfaction or deprivation of physiological appetites--

the physiological needs for food and pain-avoidance. In this same category belong other material rewards which arise later in physiological development, either through the maturation of the organism or through experience--such rewards as release of sexual tensions, toys and play materials, money, and, perhaps, power over other people.

Next in order of appearance comes approval-disapproval from other persons, beginning with praise and reproof and expressions of affection and esteem from parents, and extending to approval-disapproval from others in the family and adults such as teachers, and from age-mates.

Next comes the self-rewarding and self-punishing action of the child's superego, or conscience. This is extremely important, from the point of view of educational development, because it means that the child who has reached this level can become capable of pushing ahead with his own education without being stimulated and directed by his parents or his teachers or his peers.

Finally comes the rewarding and punishing action of the ego, the executive functions of the personality. This is more difficult to conceptualize as a source of reward or punishment, but it is essential for an adequate theory. It is essential as a means of <u>anticipation</u> of future reward or punishment, success or failure, which will result as a consequence of an action performed now, in the present.

The attached chart presents the theory of evolution of the human reward-punishment system, with additional considerations which will be discussed in the following section of this paper.

There are six major propositions of educational significance that have received some research testing.

Table I

EVOLUTION OF THE HUMAN REWARD-PUNISHMENT SYSTEM

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August, 1969

Age Level	Nature of the Reward-Punishment	Giver of the Reward-Punishment	Action Area
First four years	Satisfaction or Deprivation of Physical-Physiological Appetites (Food, Sex, Pain, Toys, Money, Power)	Parents	Basic Motor Skills Basic Mental Skills
5 - 10	Praise-Disapproval from Outside Persons	Teachers and other Adults in a Teaching Role	Social Skills-Social Personality
		Self	Special Motor Skills (Games)
	Approval-Disapproval from Superego	Peers and Peer Groups	Special Mental Skills (Reading, Arithmetic, etc.)
10 - 15	Approval-Disapproval from Ego	Wider Community	Excitement Danger, Uncertain Outcome, Sex Knowledge Beauty Experience and Expression
15 - 25			
Adult Years			Work Roles Family Roles

1. Different sub-cultures carry their children along this evolutionary path at different rates and in different ways.

Several researches have tested this proposition using social class as the sub-cultural variable. Zigler and de Labry compared the performance of middle-class and lower-class six-year-old children on a task of classifying cards on the basis of color and shape, and using intangible reinforcement ("right" and "wrong") and tangible reinforcement (tokens to be cashed in for toys). They found middle-class children to be superior, with intangible reinforcement, but this superiority vanished when lower-class children were given tangible rewards.

Lighthall and Cernius compared Caucasian middle-class and working-class 5- and 6-year-old boys on a concept-switching task using intangible and tangible reinforcers. The tangible reinforcers were metal washers which could be traded in for a toy, a ball-point pen, a piece of candy, or a dime. They did not find a social-class difference.

Zigler and Kanzer compared white middle-class and working-class eight-year-old boys on a simple game-like task, using two types of verbal reinforcers--praise and knowledge of how they were succeeding. They found that middle-class boys did better when reinforced with "right" or "correct" than when reinforced with "good" or "fine"; but lower-class boys were more responsive to the praise reinforcement than to the level of performance reinforcement. The conclusion from this experiment is that middle-class boys are more able to reward themselves by simple knowledge of how well they are doing than lower-class boys, who are still at the stage where they depend mainly on external approval. However, a replication of

this experiment by Rosenhan and Greenwald did not bear out these findings. McGrade made a similar study, using an administrator of the test-game who was naive with respect to the purpose and hypotheses of the experiment. She failed to confirm the Zigler and Kanzer findings.

We know that this kind of experiment is complicated by side effects of the experimenter's sex in relation to the sex and age of the children, as was demonstrated by Stevenson. It also seems likely that the social class variable was not sufficiently differentiated in some of these experiments. Probably there is very little difference between middle-class and stable or upper working-class families in the way they teach their children to move up the evolutionary reward scale. Probably the big difference is between the stable upper-working class and the "underclass" or lower-working class. But it appears that most of the experiments reporting on social class differences used working-class samples of the upper working class level.

Two studies have clearly differentiated between these working-class levels. Hess and Shipman differentiated Negro lower class children into a group with stable upper working-class characteristics and another group whose mothers were receiving Aid for Dependent Children. There was a substantial difference between the two groups in the mother-child relationship in a learning situation. Also, Davidson and Greenberg studied high achievers and underachievers among Harlem Negro lower-class children, and found large differences in the orderliness of the home-life between the two working-class groups.

2. <u>There are differences between ethnic sub-cultures among disadvantaged groups in the reward systems they teach their children.</u>

Although all of the severely disadvantaged families share some common characteristics of the "culture of poverty," they may also have different ethnic cultural traits which lead to different reward systems. There is evidence of such differences between Negro, Appalachian white, and some American Indian groups.

American Indians have a wide variety of tribal cultures, and therefore it is dangerous to generalize about "Indians." However, among contemporary Indian groups there appears to be a general virtue of cooperation and mutual support within an extended family and to a lesser degree within a tribal community. It might be inferred that praise-blame from family and from peer group is the most effective form of reward-punishment for Indian children living in Indian communities.

The hypothesis of peer-group rewarding power is supported by observation of school behavior in several different places. Murray Wax reports that in both the Cherokee group in Eastern Oklahoma and the Sioux of South Dakota the children tend to form a close-knit group with its own system of control that baffles the teacher. An observer in an Oklahoma Cherokee school writes, "Observing the upper-grade classroom, I concluded that the students regard it as their own place, the locus of their own society, in which the teacher is an unwelcome intruder, introducing irrelevant demands. It is rather as though a group of mutinous sailors had agreed to the efficient manning of 'their' ship while ignoring the captain and the captain's navigational goals."

Children do not tolerate an individual show of superior knowledge. Often a teacher cannot find any pupil who will volunteer an answer to a question that several of them know. In oral reading, the whole class tends to read together in audible whispers, so that the child who is supposed to be reciting can simply wait when he comes to a difficult word until he hears it said by his class-mates. Generally, pupils like to work together, and to help each other. Consequently, the weak students are carried along by the stronger ones, and the stronger ones do not exert themselves to excel the weaker ones. This same kind of behavior was noted by Wolcott in his study

of Kwakiutl children in British Columbia.

The peer group may be less effective as a source of reward-punishment for Appalachian disadvantaged children. They seem to get their rewards mainly within the family circle. Conceivably, the teacher may be a more potent source of reward for Appalachian than for Indian children, if the teacher develops a motherly or fatherly relation with them.

The Negro lower-lower class children may operate much more at the level of approval-disapproval from the teacher than the Indian or Appalachian children. They are less likely to have both parents in the home, and they probably get less parental approval-disapproval. They do not generally fall into the mutual-help pattern of the Indian children. The peer group becomes a powerful influence on the Negro children probably after the age of 9 or 10, but its influence operates mainly in out-of-school contexts--on the playground or the street-corner.

This proposition needs much more research before it can be pushed very far. But the contrasting school behavior and school success of the various minority groups argues for the existence of different systems of rewards and punishments, as well as different achievement goals to which these systems are directed.

3. <u>In general, external rewards (material or intangible) have positive values for disadvantaged or failing children</u>.

This proposition differs from the first in being valid for all social classes; leaving open the question of the relative effectiveness of these kinds of rewards in different social classes. There is a growing amount of solid practical evidence for this proposition, growing out mainly from the <u>operant</u>

conditioning programs and experiments stimulated by Skinner. They all have in common the giving of a reward for every small step in the direction of the desired learning. Work with pre-school children, such as that done by Bereiter and Engelmann is being widely studied and their practices repeated at primary grade levels.

It is not established whether material rewards, such as pieces of candy, are more effective than verbal praise. Intermediate between them is some kind of point system, whereby a child gets a point for every correct answer (sometimes a point subtracted for errors), and the points may be "cashed in" later for material objects, or special favors such as a trip to the zoo.

Several school systems have established a "reenforcement technique" for working with children who have various kind of school adjustment problems, academic and behavioral. This method seems to work equally well with middle-class and lower working-class children, as long as the child is having a school problem. The procedure is to diagnose the child's problem carefully, to work out a series of small steps from where he is to where he should be, and to reward him for each step. For example, an 11-year-old boy with a 3d grade reading level but otherwise average intelligence may refuse to read with his 6th grade class, and thus make no progress. Rewarding him for reading with his class does no good, because he makes himself ridiculous in the eyes of his classmates. (The punishment is greater than the reward.) But if a counsellor studies the boy, discovers his 3d grade reading level, and then arranges for individual remedial work with rewards for each advance above the 3d grade level, the boy may catch up with his age-mates in a few months' time.

Validity of a symbolic reinforcement program with under-achieving children was indicated with a junior high school group in Chicago, in a situation where one might expect social reinforcement to have relatively little value.

Clark and Walberg experimented with a system of massive symbolic rewards in classes of 6th and 7th grade Negro children in a Chicago ghetto--all the children being in classes for after-school remedial reading, because they were from one to four years below grade level in their school work. The reward system consisted of tallies made by each child on a card containing numbered squares. Whenever a child made a correct response or showed some other sign of learning, the teacher praised him and asked him to circle the next number on his card with a special colored pencil that he was to use only for this purpose. The cards were collected at the end of the class period. No other rewards were given for the points gained.

Teachers of nine remedial classes were instructed to give praise rewards so that even the very slow ones would get several in a session. After six sessions of this sort, five of the nine teachers were selected at random, and confidentially asked to double or triple the number of rewards they gave, while the 4 control group teachers were told to "keep up the good work."

As a result, the experimental groups got many more tally numbers, while the control groups remained at the early levels. After 5 weeks a reading test was given, and the experimental groups exceeded the controls by a substantially and statistically significant amount.

4. <u>An effective reward system in a complex changing society must be based on a strong Ego</u>.

This crucial step in the reward-punishment theory being developed here conceives the ego as a source of reward-punishment, as well as the executive and planning function of the personality. To develop this set of ideas we may turn to a recent article by Bruno Bettelheim, entitled "Psychoanalysis and Education." Bettelheim starts with the conventional dynamic personality theory of learning by young children through rewards given first by the <u>id</u> (the

physiological appetites) and then by the superego (the internalized praising and blaming voice of the parents). Therefore learning based on the pleasure principle is supplemented by learning based on the superego, which carries a child from learning for fun to learning even if it is hard work because his superego rewards him for this kind of learning and punishes him for failing to learn. We all recognize that much necessary learning is hard work, and will not take place under the pressure of the id.

Perhaps this last sentence is not quite accurate. There are a number of creative teachers and writers about teaching who in effect take the position that the way to teach children successfully (whether they are socially disadvantaged or socially advantaged) is to get the id behind their learning experience. That is, to give their "natural drive to learn," their "native curiosity," free play, and to count on their learning "creatively" in this way throughout their school experience.

For example, Herbert Kohl, in his book 36 Children, describes how he worked for a year with a class of 36 Negro slum children who were below average in academic skills. He did get results. There is no reason to doubt this. His method of encouraging them to write about their fears, their hates, and their likes, about the bad and good things they experience in their homes and streets, loosened their pens and their tongues, added to their vocabulary, and got them interested in school. It seems that Kohl was helping them marshal the forces of the id on behalf of learning. But how far can this go? How far can a slum child (or a middle-class child) go toward mastery of arithmetic, of English sentence style, of knowledge of science and history, if he is motivated only by his drive to express his feelings, or possibly also by his desire to please his friendly and permissive teacher?

We do not know how far this kind of reward will carry a child's learning.

We might guess that it would carry children up to about the 7th grade level. Therefore, we should ask Kohl and others of this school of thought to prove that their methods will carry children to the 8th grade level. No such claims appear to have been substantiated, except in the case of socially advantaged children, such as those attending A. S. Neill's school at Summerhill, England. And some observers of this school argue that it can only work with children who have a strong British middle-class superego, and can profit from teaming their somewhat starved id with the superego in the pursuit of learning.

Bettelheim argues that the main function of education is to help the ego develop so that with the aid of the superego it controls the id, but at the same time it balances the superego by allowing reasonable satisfaction of the id. "The goal of education ought to be a well-balanced personality where both id and superego are subordinated to reality, to the ego." (p.83). "Nothing automatically assures ego growth, neither punishment nor reward. The only thing that assures it is having the right experiences to stimulate and foster growth at the right time, in the right sequence, and in the right amount." (p.84.)

Thus the ego becomes a source of reward and punishment through enabling the child to promise himself realistically a future reward for doing something unpleasant at the moment, and through making the child take the blame for the future consequences of his mistakes of judgment or his mistakes of self-indulgence.

5. <u>A strongly developed ego gives a sense of personal control and personal responsibility for important events in ones life</u>.

The ego can only become an effective reward and punishment giver if the social environment is orderly enough to permit the ego to operate on the basis of a rational study of reality. This is substantially the case with the family and the community environment of the middle class and the stable working-class

in America. But the disadvantaged groups we have been considering do not experience this kind of orderliness in their environment, and do not transmit to their children a sense of confidence in an orderly environment.

Consider, for example, a child of a stable working-class home where the family have supper at a regular time, the children have a time to play after supper, and a time to go to bed. A four-year-old child in this family has learned a routine for the evening. He finishes his supper and carries his dishes to the place where they will be washed. He then plays with toys a while, and then goes to his bedroom, puts on his pajamas, and goes to his mother who has finished the supper dishes. He says, "I'm ready for bed. Now let's read." His mother gets out a picture book and they "read" together for a while, he nestled against his mother's body. Then she says, "Bed-time," and they go to his bed, where she kisses him goodnight. This is an orderly environment, in which the child's ego is developing so that it can promise him satisfaction if he does his share to bring it about.

Now consider a child of a mother of 6 children receiving welfare payments to care for her children, since she has no husband at home. Rarely is there much order in this home. Hardly can this child count on starting a train of events by doing some household chore which eventually brings him into his mother's lap to read with her. She is just too busy, too preoccupied with a hundred worries and a few desires, she may not be able to read beyond the third grade level and she may dislike reading. And she is not likely to have learned about the necessity of her children having regular rewards and punishments given consistently by her as a means of teaching them.

A good deal of research has been done on the acquisition by children of a sense of control of rewards. Rotter has studied the "sense of personal control of the environment." Crandall studied a child's feelings about whether his own

efforts determine the rewards he gets from school and from important people or whether this is a matter of luck or the whims of important people. Battle and Rotter found that middle class and white skin color tended to be associated with a sense of self-responsibility and control of the outer world's rewards and punishments. Coleman in the National Survey of Educational Opportunity asked students to agree or disagree with three statements such as "Good luck is more important than hard work for success." Negro students had a greater belief in luck as the disposer. Coleman says, "it appears that children from advantaged groups assume the environment will respond if they are able to affect it; children from disadvantaged groups do not make this assumption, but in many cases assume that nothing they will do can affect the environment--it will give benefits or withhold them but not as a consequence of their own action." (p.321). Negro children who answered "hard work" scored higher on a test of verbal performance than did white pupils who chose the "good luck" response.

William Hall studied a group of young Caucasian and Negro men aged 18 to 20, all from working-class families in a big city. He divided these young men into three categories according to their work adjustment--one group who had a record of stable employment or went back to school and succeeded there; one group called "rolling stones" who had a recent history of frequent job changes or of going back to school and dropping out again; and a third group whom he called "lookers" who just loafed around, neither working nor going to school. He used with them a questionnaire aimed to measure their sense of control of the environment through their efforts. There was a clear difference of score between the three groups, the "stable performers" having the most belief in their ability to control their environment.

From these studies it can be inferred that the ego is a less powerful source

of reward, and the ego is itself weaker, in the socially disadvantaged groups. The child who can predict the consequences of his behavior can maximize his rewards.

6. People learn to operate at all the several levels of reward, by the time they reach adolescence; and the level at which they operate varies with the action area.

This proposition directs our attention to an important set of facts that are indicated on the right-hand column of Table 1. It is possible for a person at adolescence and later to operate in terms of physiological appetite rewards in one area of action, in terms of praise-blame from peers in another area, in terms of ego reward or punishment in yet another action-area.

For example, a 17-year-old boy may seek id-rewards or satisfaction of physiological appetite in his relations with the opposite sex. He also may seek the id-rewards of excitement in doing perilous things such as driving a fast car, diving from a high diving board, rock-climbing in the mountains, gang-fighting, stealing cars. Some of these things he may do alone, thus cutting off rewards from others, and it is hard to see how one can get ego-rewards from doing dangerous things for no purpose other than the thrill or from matching one's wits against nature.

This same boy may play a good game of tennis or basket-ball partly to get the reward of approval from his peers. And he may work long hours at night on a high school course in calculus for advanced standing in college, primarily because his ego tells him he will be rewarded in the future by a successful occupational career.

Probably a social-class and ethnic sub-culture teaches a person to choose certain areas for certain kinds of rewards. For instance, some American Indian cultures may teach their children to rely on praise-blame from peers for much of their school behavior. A big-city Negro lower working-class culture may

teach boys to learn to fight, to play basket-ball, to throw rocks at school windows and to smoke "pot" through id-rewards and peer group rewards, while it teaches them to expect punishment from teachers for their behavior and lack of achievement in school.

But a particular Negro boy may become so accurate at "shooting baskets" on the park playground that he no longer gets much feeling of reward from being the best in his neighborhood. He may happen on an older high school athlete who rewards him by playing with him, or a man in the neighborhood who tells him that he might become a second Cazzie Russell, if he keeps on. At this point his ego may become effective as a promiser of future reward if he stays in school and makes his grades and then makes the school basket-ball team.

The study by Morris Gross of "Learning Readiness in Two Jewish Groups" provides a striking illustration of action areas apparently selected by the minority group sub-culture for differential rewards. Ninety Brooklyn Jewish boys aged about 6 years and all middle class were given a set of tests of cognitive development. About half of the boys came from Sephardic families (immigrants from Arabic or Oriental countries) and half came from Ashkenazic families (immigrants from Europe). The mothers were all native born, and English was the household language. The boys with European family background were decidedly superior in the cognitive measures to the boys with Arabic-Oriental family backgrounds. There was a 17-point IQ difference on the Peabody Picture Vocabulary Test. Yet the parents were all middle-class Jews living in the same big city. Intensive study of the family training and background experience of the two groups of boys revealed little difference except in the mothers' attitudes toward wealth. Twice as many Ashkenazic (European) mothers said that earnings were "unimportant" in their desires for their children, and three times as many Sephardic mothers said they wanted their sons to be "wealthy."

One may infer from this study that the reward systems in the two groups of families (which were very similar according to the sophisticated methods used to study them) were directed toward different areas of action.

Conclusion: The Education of Disadvantaged Minority Groups

What can we say from this partially confirmed theory about the education of disadvantaged minority groups?

First, we can say that teachers would teach better if they had a systematic theory of the working of reward and punishment in the learning of children, and they put this theory into practice. Their theory should include the concept of a hierarchy of reward levels, and they should understand what levels of reward are operating in their classes.

Second, we can assume that most socially disadvantaged children are lower on the evolutionary reward scale, at a given age, than are the advantaged children. Therefore the teachers of these children should reward children with a great deal of praise, and perhaps with a point system that produces material rewards.

Third, a major goal of all teachers at all levels should be to help the child strengthen his ego as a controller and rewarder of his behavior. This means that the teacher cannot be content with using praise and other forms of external reward, although these should be used when they are needed. The teacher should help the child move up the reward scale.

Progress toward strengthening the ego can only be made in school by putting order and consistency into the school situation, so that the child can learn how to control his environment on the basis of the reality principle. This can be done for individual children partly by individualized instruction which enables them to learn and to predict their own learning in relation to their

effort to learn. This can be done for a school class by an orderly program in which students know what their responsibilities are, participate in making decisions about their work, and get accurate information on their progress.

Since the family of the disadvantaged child so often fails to perform its part of the implicit contract, there is bound to be dissatisfaction by school teachers and administrators with the situation, and critics will blame sometimes the school and sometimes the family sub-culture. Probably the educator will have to spend much of his energy working with parents and leaders in the local sub-culture, helping them and receiving help from them to create an environment in the home and neighborhood which supports the learning experience of the child and directs it along socially desirable lines.

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